

Mr. Newport added the following new species :—

PTERONARCYS CALIFORNICUS ♂; capite thoraceque saturatè brunneis, fronte clypeo labroque rufis, oculis ocellisque nigris, segmentis thoracicis lineâ longitudinali interruptâ flavâ, abdomine aurantiaco lateribus brunneis, stylis caudalibus basi flavis, antennis pedibusque totis atris, alis obscuris nigro-nervosis sed absque maculâ stigmali.

Hab. in Californiâ (*D. Hartweg*).

The following apparently new species of Canadian *Perlida* were described, with remarks on the habits of each as observed by Mr. Barnston.

1. *PERLA CITRONELLA* (*Barnston MSS.*); saturatè flava, antennarum articulis 33–35, oculis ocellisque brunneis, alis hyalinis pallidè luteis margine costali flavis, abdominis dorso brunneo.—Long. lin. 3–3½.

Hab. in Canadâ, ad Albany River, latit. 54°.

2. *PERLA MINIMA* (*Barnston MSS.*); nigra nitida, antennarum articulis circa 26 submoniliformibus pilosis, fronte paululùm excavato, palpis subclavatis, thorace angusto subquadrato, stylis caudalibus 13-articulatis, alis obscuris nigro-nervosis in mari brevibus obtusis abdomen semicooperientibus in fœminâ amplis corpore longioribus.—Long. lin. 1¾–2.

Hab. in Canadâ, ad Albany River.

3. *CAPNIA VERNALIS*, *Newp.*; nigra nitida pilosa, thorace posticè rotundato, antennarum articulis 30–33 pubescentibus, alis obscuris pilosiusculis nervis magnis nigris, stylis caudalibus subulatis 21–23-articulatis.—Long. lin. 2½.

Perla vernalis, *Barnston MSS.*

Hab. in Canadâ, ad Albany River.

The fourth species, distinguished from most other *Nemoura* by the short anterior wings of the male, the author proposed to join with *Nemoura trifasciata*, Pictet, which is similarly formed, in a subgenus for which he proposed the name *Brachyptera*.

4. *NEMOURA (Brachyptera) GLACIALIS* (*Barnston MSS.*). *Mas* saturatè brunneus ferè niger, thoracis margine anteriore recto, alis anterioribus triangularibus rudimentalibus segmentum abdominale primum tantùm attingentibus; posterioribus albidis longissimis acutis emarcidis decussatis, antennis elongatis pubescentibus 53–56-articulatis, pedibus longis compressis cursoriis; paris postremi longissimis, abdominis segmento terminali lato plano pubescente.

Fœmina multò major, in reliquis tamen similis, capite paululùm excavato, alis amplis obscurè brunneis nigro-nervosis.—Long. unc. ½.

Hab. in Canadâ, ad Albany River.

MISCELLANEOUS.

How to prevent the Attacks of the Bed-bug, Cimex lectularius.

By JOHN BLACKWALL, F.L.S.

So numerous and important are the advantages which result from an exact and comprehensive knowledge of entomology, that few persons of liberal education, in the present day, are disposed to

bestow ridicule upon those who direct their attention to this interesting branch of zoology. That such was not the case, however, even at a recent period, many individuals now living can bear testimony. To what fortunate combination of events then is the rapid change which has taken place to be ascribed? Chiefly, I apprehend, to the increased intelligence of the age, and to a growing taste for natural history; a taste, as regards the particular department here alluded to, promoted by numerous valuable publications on the subject which of late years have issued from the press; and especially, in this country, by the excellent 'Introduction to Entomology' by Messrs. Kirby and Spence, which has greatly contributed to the removal of prejudices formerly entertained against the investigation of the minute beings so ably and extensively treated upon in its pages.

Among the various benefits deducible from an intimate acquaintance with the structure, functions and œconomy of insects, such as exercise a direct influence upon our persons and property unquestionably occupy the foremost rank; consequently, the simple means which I am about to propose of obtaining protection from a disgusting creature whose irritating movements and venomous punctures nightly disturb the repose of thousands of the human race, may be expected to meet with the cordial approbation of all those who are compelled by their avocations, or by any other circumstances, to reside in large towns, where the bed-bug generally abounds.

Being strictly nocturnal in its habits, this loathsome pest quits its retreat in quest of prey during the silent hours of darkness, and the sphere of its annoying operations is limited almost entirely, if not wholly, to the precincts of beds. Now in order that its access to them may be effectually prevented, a careful examination of its organs of locomotion, for the purpose of ascertaining with precision the true character and extent of their powers, is indispensable; and as it is apterous, although included in the Linnæan order *Hemiptera*, the legs alone require to be minutely inspected.

It is a well-known fact that many insects are enabled to ascend hard dry bodies having polished perpendicular surfaces by the emission of a viscous secretion from certain appendages connected with their tarsi, while others, and by much the greater number of species, are utterly incapable of doing so in consequence of not being provided with the parts constituting this climbing apparatus; and as observation and experiment supply conclusive evidence that the bed-bug is comprised under the latter head, and is disqualified for leaping by its organization, an easy and sure method of counteracting its troublesome propensities immediately presents itself.

From the particulars already stated, it is sufficiently obvious that the bed-bug can obtain access to beds in no other manner than by climbing; and it is equally plain that it cannot ascend hard dry objects whose surfaces are highly polished and are either vertical, convex, or inclined from the base outwards; if, therefore, a bed be so placed that it does not touch any part of the room in which it is situated except the floor with its feet, and if they consist of truncated cones of glass with the smaller end downwards; or if each of the

ordinary wooden feet be terminated by a truncated cone of glass inverted, or be closely encircled by a zone of the same material several inches broad and having its external surface convex, the desired end, total exemption from annoyance, will be attained. It is scarcely necessary to remark that the bed-furniture must not be in contact with any part of the room, or with the glass feet or zones.

In hot climates, where noxious animals of various kinds swarm, security during the hours of repose in bed from many species, which, though unable to fly or leap, can walk with facility upon a vertical surface of clean glass, may be effected by placing the feet of beds, guarded in the manner above described, in shallow vessels of any convenient size, shape and material containing finely pulverized chalk, gypsum, flour of wheat, or other dry substances reduced to an almost impalpable powder; the minute particles by their attachment to the climbing apparatus completely preventing its adhesion to the glass. The success of this plan depends upon the substances employed being thoroughly well comminuted and kept free from moisture.

I may mention, in conclusion, that a scientific friend of mine has recently caused the proposed method of affording security from the bed-bug to be carried into effect, and the parties for whose benefit the experiment was made affirm that it succeeds perfectly. In one instance only it appeared to fail, but the cause was soon detected; part of the drapery of the bed was found to be in contact with the floor of the room, and up this the bugs had evidently climbed, for, when the intruders were secured and the drapery was removed, all further attempts of this noisome insect to obtain access to the bed were unavailing. Of course when beds are infested with bugs they must be taken down, and recourse must be had to the most approved means of exterminating the vermin, such as stoving, scouring, washing, &c., before the glass protectors can be applied with advantage.

Notice of an English locality for Helix revelata, Ferussac.

Helix revelata was added to the British fauna by Professor Forbes, who discovered it near Doyle's Monument in Guernsey. Specimens from that place and from the adjacent islet of Lihou, the donation of Mr. Lukis, are preserved in the British Museum. In Pfeiffer's Monograph the island of Jersey is stated as a habitat, but without the citation of any authority. In June 1847 I met with this shell under stones on the top of a bank upon the down crowning a cliff near the harbour of Rozel, and looking towards the coast of France. Mr. William Thompson (Ann. and Mag. Nat. Hist. 1840), when comparing the Irish species of land and freshwater mollusca with those of Great Britain, laid some stress on the circumstance that *Helix aperta* and *H. revelata* had never been found in Great Britain, but only in the island of Guernsey. I have now the good fortune to announce the interesting fact of the occurrence of the latter shell in England. The discovery is due to my son, Mr. Arthur E. Benson, who on the 16th instant brought in a depilated specimen which he